

compression is found in Figs. 11 and 13 and the accompanying text on pages 25-27 of the specification. Fig. 11 shows two partial circuits, each containing 3 NMOS transistors and three PMOS transistors, that have been determined to have equivalent operational characteristics. These two partial circuits are integrated into the partial circuit shown in Fig. 13.

**Rejections Under §§ 102 and 103**

During the Examiner Interview, the Examiner stated that he would favorably review claims incorporating the feature of "quasi-equivalence." However, Applicant has amended the independent claims to emphasize that equivalence of extracted partial circuits is determined when the configurations of the partial circuits are mutually consistent. In the present invention, a plurality of partial circuits is extracted from a circuit to be simulated. The partial circuits are inspected to determine partial circuits having equivalent operational characteristics. Partial circuits that have configurations that are mutually consistent are considered as having equivalent operational characteristics. The partial circuits having equivalent operational characteristics are compressed by integrating these partial circuits into one partial circuit, which allows circuit simulation to be conducted at a high speed.

If any additional fees are required in connection with the filing of this Preliminary Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,  
STAAS & HALSEY LLP

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By: C. Joan Gilsdorf

Christine Joan Gilsdorf  
Registration No. 43,635

Suite 500  
700 Eleventh St., N.W.  
Washington, D.C. 20001  
(202) 434-1500

**CLAIM AMENDMENTS WITH MARKINGS SHOWING CHANGES**

9. (TWICE AMENDED) A method of carrying out simulation of a circuit, comprising:  
inputting data comprising configurations for a plurality of partial circuits, and connectional relationships for input and output terminals of the partial circuits;  
extracting, from the circuit to be simulated, the plurality of partial circuits to inspect for equivalent operational characteristics;  
inspecting the plurality of partial circuits to detect partial circuits exhibiting equivalent operational characteristics, based on the configurations of the plurality of partial circuits, and judging equivalence when the configurations of said plurality of partial circuits are mutually existent; and  
compressing the circuit by integrating the partial circuits exhibiting equivalent operational characteristics into one circuit and simulating the compressed circuit.

13. (CANCELED)

21. (TWICE AMENDED) A system for carrying out simulation of a circuit, comprising:  
a data input unit inputting data comprising configurations for a plurality of partial circuits, and connectional relationships for input and output terminals of the partial circuits;  
a circuit extracting unit [for] extracting, from the circuit to be simulated, the plurality of partial circuits to inspect for equivalent operational characteristics;  
a storage unit [for] holding data concerning configurations of the plurality of partial circuits; and  
a circuit equivalence inspecting unit [for] detecting partial circuits exhibiting equivalent operational characteristics by inspecting the plurality of partial circuits on the basis of the configurations of the plurality of partial circuits, and having a judging unit judging equivalence when the configurations of said plurality of partial circuits are mutually consistent,  
wherein the circuit to be simulated is compressed by integrating the partial circuits exhibiting equivalent operational characteristics into one circuit and circuit simulation is performed on the compressed circuit.

25. (CANCELED)

33. (TWICE AMENDED) An apparatus for carrying out simulation of a circuit, comprising:

a data input [unit] circuit inputting data comprising configurations for a plurality of partial circuits, and connectional relationships for input and output terminals of the partial circuits[,] ;

a circuit extracting circuit [for] extracting, from the circuit to be simulated, the plurality of partial circuits to inspect for equivalent operational characteristics;

a storage [unit for] circuit holding data concerning configurations of the plurality of partial circuits; and

a circuit-equivalent inspecting [unit] circuit [for] detecting partial circuits exhibiting equivalent operational characteristics by inspecting the plurality of partial circuits on the basis of the configurations of the plurality of partial circuits, and having a judging circuit judging equivalence when the configurations of said plurality of partial circuits are mutually consistent,

wherein the circuit to be simulated is compressed by integrating the partial circuits exhibiting equivalent operational characteristics into one circuit and circuit simulation is performed on the compressed circuit.

37. (CANCELED)

45. (CANCELED)